GrummanWorld

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History Made, And In the Making. *Amidst the Cradle of Aviation Museum's collection of aviation artifacts, over 200 Grummanites learn of accomplishments by GQ teams that will change the company's future. (Photo by Rich Breunig)*

Grumman Quality Puts Its Successes On Display

MITCHELL FIELD, N.Y., July 24, 1989 — There are lots of Grumman success stories here in the Cradle of Aviation Museum. Among them are the World War II Hellcat, the Lunar Module that brought men safely to and from the Moon, and, just for today, Grumman Quality (GQ).

GQ
Means Grumman Quality

Over 200 GQ participants attended the ceremonies at the Cradle of Aviation to celebrate the growing success of GQ throughout the company. Representatives from four action teams presented solutions that they recently implemented.

Chairman John O'Brien congratulated them. "You are beginning to make changes in this company. I think we're making a hell of a lot of progress."

Some of these changes may be simple, O'Brien said, but they are important. For example, the Data Systems team that Terry Morse is on tackled a costly everyday process: the buying of pens and pencils and paper.

"We were all amazed at how much time and money is wasted," Morse told the group. Ordering office supplies meant filling out forms called "C" requisitions. Each "C" Req goes through 15 processing steps and costs $150 to process, not including the actual purchase cost which usually runs about $50. The team was able to

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Temporary Cease Fire Declared In Battle Of Defense Budget

A temporary cease fire has been declared in the battle of the fiscal 1990 defense budget. On Friday, August 4, House members and senators left for summer recess. Congress will reconvene after Labor Day.

The reprieve from the battle of the budget won't stop Grumman's lobbying efforts. "We're not cooling off during August," says Peter Barry, Vice President-Washington Operations. "Since most of the Congress went home for the recess, we'll be stepping up our lobbying efforts on the home front — especially in districts where Grumman is located."

After Labor Day, conferees will probably get together and settle the differences between the House and Senate versions of the fiscal 1990 defense authorization bills. Since the House bill contains funding for new F-14D's and the Senate's does not, the fate of the F-14D will be determined by the makeup of the conference committee.

Each chamber of Congress will field 20 members for its conference committee. Though the chairman of each Armed Services committee picks the conference committee members, there are some generally followed rules.

On the Senate side, traditionally all 20 members of the Armed Services Committee would go to conference. Within this group, Grumman has some support. Back on July 13 when the committee voted on its 1990 defense authorization bill, seven members voted for an amendment sponsored by Senator John McCain (D-Ariz.) to fund F-14D production. They were: McCain, Robert Byrd (D-W. Va.), Alan Dixon (D-Il.), John Glenn (D-Ohio), Albert Gore (D-Tenn.), Edward Kennedy (D-Mass.) and Pete Wilson (R-Ca.). Though he didn't vote for the McCain amendment, Carl Levin (D-Mich.) also submitted an F-14D amendment.

The House team's makeup is a tougher call. There are 52 representatives on its Armed Services Committee. Like the Senate, the House will have 20 slots on the conference committee. The chairman often taps the chairpersons of each subcommittee, the ranking minority party members of each subcommittee, and then fills out the group by seniority.

But the Armed Services Committee chairman, Les Aspin, has departed from that formula in the past. He could choose members who lean toward his position, which generally supports the budget plan submitted by Defense Secretary Richard Cheney. Cheney's budget cut funding for new F-14D production. But Aspin may chose to put together a committee that reflects how his committee voted on its own defense authorization bill.

"We asked Sen. Aspin if he had chosen the members of the conference committee yet," says Barry. "He said he hadn't, and would not announce his choices until after the recess is over."

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Grumman Releases Second Quarter Results

On August 3, Grumman Corporation reported that net income for the second quarter ended June 30 increased to $19.5 million or 56 cents a share from $18.8 million or 53 cents a share in the year-ago quarter. Sales increased slightly to $881.4 million from $873.7 million.

Operating profits, before interest and taxes, grew 15 percent to $56.8 million from $49.1 million, as operating margins improved to 6.4 percent from 5.6 percent. Included in the operating profits was $6.5 million for the expected recovery of product improvement costs on several F-14 contracts. Corporate interest expense increased by $7 million to 27.8 million.

For the first six months of 1989, net income was $35.6 million or $1.02 a share on sales of $1.79 billion compared to $39.8 million or $1.14 a share on sales of $1.78 billion last year. Operating income increased eight percent to $107.7 million from $99.5 million but there was a $15 million increase in interest expense.

In the second quarter, the aerospace business segment's sales decreased by $8.6 million to $618.3 million while operating income increased to $39.8 million from $29.9 million. Operating margins increased to 6.4 percent from 4.8 percent, primarily from increased profits on the F-14 program including the $6.5 million of expected recovery of product improvement costs.

Electronics systems segment sales declined 11 percent to $112.3 million from $126.7 million as a result of fewer test equipment deliveries and reduced electronics requirements for Grumman aircraft. Successful radar test flights on the Joint STARS program continued. Nevertheless, as previously reported, the effects of a nine-month slip in the original program schedule continue to be analyzed.

In the special purpose vehicle segment, sales increased slightly to $102.1 million from $100.5 million. Operating income was $4.3 million up from $4 million. The continued strong performance on the Postal Service delivery truck program was offset by start-up costs of the commercial parts fabrication center which were about $1.2 million higher than in 1988.

Sales in the information and other services segment increased to $147 million from $132.9 million primarily due to the wind up of a long-term contract of the Data Systems division. Segment operating income of $10.1 million was down by $3.5 million due to unrecovered costs on a Technical Services division contract.

"Higher interest costs continue to erode our operating income gains," said Grumman Chairman John O'Brien. "Our backlog remains at a strong $7.4 billion, twice last year's sales."

"The issue of continued new F-14 production puts us in the middle of the current defense budget debate in Washington. The administration requested a F-14 procurement budget of $770 million, which funded remanufactured but not new production aircraft. The House has authorized $1 billion for both new and remanufactured aircraft. The issue will be decided by a Senate/House conference committee which convenes in September. We are confident that the House position will prevail."

Space Agenda. *Discussing space exploration were: George Zaslavsky, a physicist with the Soviet Institute for Space Research; retired Grumman President Joe Gavin; Congressman Tom Downey; and Roald Sagdeyev, senior advisor to the Institute. (Photo by Rich Breunig)*

Space Education Center Proposed For L.I.

About 100 people attended a recent conference at Grumman on the future of manned space exploration and the creation of a space education center on Long Island.

The meeting took place at Grumman headquarters on July 29. Among those addressing the group were Representative Tom Downey (D-N.Y.) and U.S.S.R. physicist Roald Sagdeyev, senior advisor to the Soviet Institute of Space Research.

Downey called for increased international cooperation and said Long Island should take a leadership role in educating tomorrow's space scientists and explorers. Sandy Jones, Grumman vice president - Public Affairs, will chair a committee of Long Island business people and educators studying the feasibility of a space education center.

"This is the time for the nation, the international community, and Grumman to fashion an innovative and challenging space program," said Downey.

Several Grumman Divisions To Shut Down For July 4th Week In '90

Approximately one out of three Grummanites took off the first week of July this year. Next year, July 4th falls on a Wednesday; many Grumman divisions plan to close their facilities for the entire week.

People may use vacation, paid absence allowance, personal holidays, or choose to be without pay for July 2, 3, 5 and 6. As in previous years, you can purchase an additional week of vacation time for 1990.

The following divisions will shut down from June 30 through July 7 in 1990: Aircraft Systems, the Systems Group (Space Systems, Electronics Systems and Melbourne Systems) except for Tachonics, Allied (L.I. only), and Corporate Services.

"The Fourth of July week has become a very popular vacation week for Grumman people," says Bob Bradshaw, vice president and secretary. "With so many people out, productivity drops — just like it did during the year-end holiday break years ago. Plus, one week savings in air conditioning will put a dent in the electricity bills."

In the Grumman divisions, several Allied facilities close down for two weeks in the summer; the LLV facility in Montgomery, Pennsylvania, closes for deer hunting season every fall.

Such closings allow time for major renovations, computer maintenance and upgrades. Right now, the only time set aside for these tasks is over the year-end holiday break, says Bradshaw. And, with the increased use of computers in the workplace and the increasingly complex upgrades required on mainframes, an additional recess would be ideal.

Bradshaw added that announcing the company's plans for 1990's July 4th week now would allow Grumman people to better plan their 1990 vacations.

Here is the 1990 vacation schedule:

January 1 – New Year's Day.
February 19 – Washington's Birthday observed.
May 28 – Memorial Day.
July 2, 3, 5, 6 – Facilities closed (you may use vacation, paid absence, personal holidays, or choose to be without pay).
July 4 – Independence Day.
September 3 – Labor Day.
November 22 – Thanksgiving.
December 24 – Christmas Eve.
December 25 – Christmas Day.
December 26, 27, 28, 31 – Floating holidays.

Next Issue – August 25

Tomcat Rally. *On July 26, Stuart Operations in Florida sponsored a 'Save The Tomcat' rally during lunch. Speakers included Grumman Vice Chairman-Corporate Technology Renso Caporali and Vice President Bob Watkins (L), Stuart Operations general manager.*

Stuart Holds 'Save The Tomcat' Rally

Hot dogs were on the menu of a picnic lunch at Stuart Operations in Florida on July 26, but the hot topic was the F-14D's plight in Congress.

Over 1,000 Grummanites gathered for this lunchtime "Save The Tomcat" rally and heard Grumman Vice Chairman-Corporate Technology Renso Caporali tell them that the battle to keep the F-14D assembly line open has a way to go. Caporali was joined by Senior Vice President Tom McGrath, Vice President and Stuart General Manager Bob Watkins and several state and local officials.

Caporali told the Grummanites, "Cancellation of the F-14D probably means Grumman would be lost to the nation as a designer and developer of carrier aircraft and the consequences of this action would, in all probability, ultimately lead to an increase in defense costs and a decrease in the defense establishment's industrial base."

He pointed out that the nation is under tremendous budgetary pressure, and America's political leaders are having a difficult time trying to relieve that pressure.

But he said those leaders must provide for the best affordable defense of the nation. "We believe that the best affordable defense includes the F-14."

"It could be fall before the issue is finally decided," Caporali stated. "Until it's settled, we will have a lot of Grumman people as well as other concerned and interested individuals and organizations working hard to get the F-14 back in the FY90 budget."

It's Inconvenient, But It's A Requirement

Briefcases, luggage, shoulder bags, handbags, athletic bags, packages and other similar items will be subject to random inspections starting August 14. The Defense Department's Industrial Security Program requires all contractors to do this.

"These inspections are to help assure that classified information is taken from Grumman only by authorized people for appropriate business reasons," says Harry Volz, Grumman's Security director. "The DoD also wants to keep classified information from being brought into contractors' facilities without proper contractual authority."

These inspections will be done randomly at the entrances of any Grumman building where classified work is done. Inspectors will stop Grummanites to look through their personal effects. However, they will not look through wallets, change purses, clothing, cosmetic cases or other particularly personal items.

Any classified or company-sensitive material not accompanied by authorization to carry it will have to be confiscated.

"Obviously, this requirement applies to all employees, including company officers," Volz says. "Everyone's cooperation will be sincerely appreciated."

Congress Isn't Only Group Deciding Fate Of F-14D

As this issue lands on your desk, a Navy crew may have already landed an F-14D at Calverton after the last flight of a critical, 40-flight initial operational test program. This test program was scheduled to end on August 11, but it was running a week ahead of schedule.

Four two-man Navy flight crews were assigned to see if the F-14D's new avionics and weapon system are on schedule in the development process. The crews, from flight test squadron VX-4, have been flying a pair of Grumman F-14D full scale development aircraft since July 17. These tests have been conducted on Long Island instead of the Patuxent River Naval Air Test Center in Maryland because Calverton has been the principal development flight test site since the beginning of the F-14D program.

Hank Janiesch, director of Development for the F-14D program, says that the development effort is more than 60 percent complete. "These development planes have air-to-air attack capabilities, basic navigation and display functions, search, detection and attack radar capabilities, and they can simulate weapon delivery." The last three major systems still to be incorporated are the F-14D's reconnaissance capabilities, the infrared search and tracking system and the Joint Tactical Information Distribution System.

Janiesch says that the Navy program manager will make a major recommendation in October or November of this year based on favorable results of these test flights. He will recommend allocation of money in the fiscal 1990 budget to be spent for continued production of the advanced Tomcat and long lead procurement for fiscal 1991 production. That's provided both houses of Congress agree on a 1990 defense budget bill that has funding for new F-14D production, and President Bush signs it.

Even if the 1990 defense budget is passed without the F-14D, work from the development program would have to be completed for the new D's being produced under the fiscal 1988 and 1989 budgets, and for the remanufacturing program.

Everything, including the time it takes to make repairs or equipment changes on the ground, is being scored by the Navy team in the current tests. Janiesch says the development planes are holding up well. He says, "We can turn the two aircraft around to get a total of four flights a day out of them, and we've done that five times so far."

The F-14D is heavily dependent on sophisticated computer programs. During the flight test program leading up to this current one, Janiesch says, "We had some instabilities and inconsistencies in the systems. Most of those problems were software related. But we feel confident we've gotten most of the bugs out so as to successfully accomplish the Navy's current performance evaluation."

After this test program is finished, the full scale development program will be in the home stretch. "Next year at this time the Navy will analyze the complete system during a final operational evaluation," says Janiesch. Congress willing, a passing grade in the operational tests will graduate the F-14D into full production for several more years. The first pilot production F-14D is to be completed and delivered early next year.

Appointments Announced

Aircraft Systems

Bethpage Operations: George A. Erichsen, foreman, Tool Fabrication and Equipment Deployment; George L. Schomburg, supervisor, Production Release and Analysis; David Hutchison, supervisor, Inventory Record.

EA-6B Program: Nunzio C. Sterrantino, program director, Development.

Field Operations: Edward P. Sachs, deputy director, Field Operations and Field Support Programs.

Integrated Logistics Support: Elbert Kirkpatrick, engineering specialist, Digital Test Engineering; Joseph Scinta, technical advisor, engineering; Gerard G. Romber, technical specialist, Digital Test Engineering; Ralph Weiss, engineering specialist, Sub-Systems Engineering.

Special Projects and Development Operations: Charles P. Cava, production manager, Building Management; Robert V. Clare, production manager, Building Management; Frank Sacca, production manager, Building Management.

Melbourne Systems

James C. Reed, director, ILS/ Readiness.

GQ Continues To Grow

(Continued from page 1)

eliminate some of the steps and set up a central receiving area in Data Systems to handle the supplies.

Ed Merriam discussed how his joint Aircraft Systems/ ElectronicsSystems team came up with ways to improve the quality of modification kits. These kits are an important part of Grumman's business. "There are lots of airplanes that will need to be modified," Merriam said. "And we're now dealing with a variety of customers: the Navy, the Air Force, and foreign customers."

Problems arise, he said, when kit designers don't understand what the customer wants. Or perhaps they come up with installation instructions that demand skills or special tools that the customer doesn't have. Merriam said his team came up a generic sequence of steps that must be followed for each new job to avoid such problems. Several mod kit programs have already put these rules to use.

For Ed Starling's Electronics Systems team, the problem was too much computer output. As a test case, the team looked at the Production Status Reporting System. This system tells Grumman how close it's sticking to its production plans.

"We were printing approximately three million pages of reports per year," Starling said. Far too many pages were just unnecessary, they learned. "We immediately found we could reduce that to two million pages and, after additional study, we learned we could reduce that to about 750,000 pages per year." That translated to a savings of $190,000.

Stu Lawrence of the LLV unit of Grumman Allied explained how members of the GQ team at the Montgomery, Pennsylvania, facility rolled up their sleeves and wrestled with rework and scrap costs. This was on top of an effort that started before the Grumman Quality Process team was set up at the plant.

Earlier, the LLV program had budgeted two hours of rework per truck and $15,000 a month for scrap. But as this automated production process got to its 95-trucks-a-day goal, they wanted to cuts these costs.

Lawrence said the new goal was to have people inspect their own work and fix as many problems as possible on the line.

A system was developed to share some of the savings with the Grummanites.

The result? Rework labor alone would have cost LLV about $1 million over a 12-month period without all the improvements. Since GQ began, the team projects the cost will be just one-half million by the end of 12 months. Savings in other areas are similar.

Today's GQ meeting was the second in the past three months, and the first held off the Grumman grounds.

These meetings are Grumman's way to recognize people for doing "right things right. We want to tell them that management cares," said Dean Cassell, Grumman vice president and chairman of the Corporate Quality Council, which oversees the GQ Process.

The Sky's The Limit. *Chairman John O'Brien praised the work of Grummanites who've made the GQ Process a force for change in the company. (Photo by Rich Breunig)*

Cost-cutting Remodeling Team Earns $$

On July 28, 34 Grummanites received bonus checks for their part in the cost-cutting refurbishment of Building 16, the old Credit Union building in Bethpage.

The project was an experiment in the use of monetary rewards for outstanding performance. The work had price and date of completion targets. Team members received 50 percent of cost savings; the rest was returned to the company as lower operating cost. Sharing savings was first proposed as a Grumman Quality (GQ) solution in Business Operations.

"We proved that we can do a job ahead of schedule and under cost," said Jake Bussolini, vice president - Business Operations. "In this case, since overhead costs were reduced, continuous savings of this type will be passed on to our government customers as lower product costs."

The building's main tenant praised the Grummanites' workmanship. "All the people in Security really appreciate what you did and the time span that you did it in," said Harry Volz, director of Corporate Security.

In all, the team saved about $38,000 in labor, which translated into $19,000 in incentive awards. Since almost all of the team's members split their time among other projects, the amount of each person's check was tied to the time spent on this one job.

Although cost targets were originally reduced about 20 percent from the levels normally estimated for such jobs, the team beat them by another 20 percent. "The keys were careful planning, proper expediting of material, multiple cross skill utilization, and the desire to prove it could be done," said Bussolini.

A similar incentive scheme will be used for a new project: moving several Electronics Systems departments from their present location in Headquarters to Great River, Long Island.

But the savings might not be split 50-50. The target date for the move is September 7. For every week the team finishes ahead of that, its share will increase five percent. "If they beat it by two weeks, the split will be 60:40," Bussolini says.

Bussolini said material-cost savings could be factored into future projects. "In addition, to date we haven't included Facilities Engineering," he said. "But for engineers to really understand the problems crews have building to their drawings they make, we plan to include them in the future."

Business Operations is aggressively looking for other areas where gain sharing can be used. "Anything that can be accurately estimated and measured can use gain sharing, if we can find away to save money and assure our customer that it's auditable," he said.

"It's always a good idea to recognize people for the work they do," said Phil Avello, who worked on the project. "People like to be told they're doing a good job. Myself? I do good work anyway."

Electrician Nat Mays said his group had no problem keeping up with the rigorous project schedule. "Regardless of the bonus, we aim to be the best," he said.

"I never doubted the desire of these people to produce quality work," said Bussolini. "But we proved that long-established cultures can be changed by teamwork on all levels when people all understand the goals, are given the right atmosphere to perform, and do the right things right. That's what gain sharing — and GQ — are all about. It's starting to catch on."

Cost Cutters. *Left to right gets complicated, but among those on the Building 16 remodeling team were: Jack Whelan, Phil Avello, Bob Lyden, Jamie Tintle, Joe Sapienza, Al Gosline, Bob DeNicolis, Scott Wilson, John Januszkiewicz, Bob Czarniecki, Charlie Cox, Tom Abbondandolo, John Douso, Dick Reichel, Pete Wagenhauser, John Durfee, Adam Dowling, Mac McCarthy, Warren Flais, Chuck Evers, Nat Mays, Pete Calderone, Ken Simco, Mike Cleary, Tony Sette, Bob Jasinkonis, Bill Fenn, Joe Diodato. Manager Art Hall (L) and Vice President Jake Bussolini (R) handed out the checks.*

New Recycling Program For Polystyrene To Begin At Great River, Calverton

Grumman's Great River and Calverton, Long Island, facilities will soon participate in a program to recycle polystyrene food-service products.

The program begins at Great River on August 14, and at Calverton on August 21. Three cafeterias at Calverton and one in Great River will initially be involved. The recycling program will include cups, trays, plates, bowls, and cup lids — in other words, all cafeteria plastic except utensils.

The McDonald's fast-food chain recently began a recycling program of this type. "But Grumman is one of the first companies outside the food-services industry to do it," says Bart Cassidy, the program's coordinator. "This will be a two-month trial program. If everything runs smoothly, as we believe it will, we will begin expanding it to all our other cafeterias on Long Island."

There will be a special bin in each cafeteria for polystyrene. Diners first have to put bulk trash such as paper and uneaten food into the regular garbage pail. "You don't have to scrape your plate — just throw away that half-eaten roll or salad," says Cassidy.

The polystyrene will be picked up at each plant by Tri-State Recycling Company of Copiague, Long Island. It will then be transported to Polystyrene Recycling, Inc., of Brooklyn, an Amoco subsidiary, for reprocessing.

The polystyrene is shredded at that plant. Special air blowers and screens remove contaminants. It is then ground into a pulp, washed, and dried.

"You get small pellets that can be reshaped into a wide variety of products," says Cassidy. Examples include: construction materials, recycled plastic videocassettes, office products, food trays, plant containers, and toys.

"One of the nice things about this process is, these are all products with a fairly long life," he notes. "They aren't going to be discarded again soon."

All material collected would otherwise go to local landfills or be shipped elsewhere. Recycling polystyrene will cost the company about the same amount of money it would normally have to pay to have it carted away.

Last year, the Suffolk County legislature passed a law banning many polystyrene food service products. It recently placed a six-month moratorium on implementing the law, in view of these advances in recycling.

A ban would force a return to china and cutlery, which would cause other problems. "We would increase our water consumption to clean dishes — and energy consumption as well, since it would have to be heated to considerable temperatures," Cassidy points out.

Environmental experts say food-service polystyrene accounts for a fraction of one percent of solid waste. "So a ban would only address a very small part of a big problem," says Cassidy. "Programs like ours take care of the waste — but also get people into the habit of recycling. They start to be concerned about other materials as well."

The polystyrene recycling program will be launched in Great River and Calverton to coincide with the start of paper recycling at those sites. "Our educational efforts for those two sites will cover both types of recycling," says Cassidy.

Grumman began recycling paper in 1988, and that program now covers all of Bethpage, Long Island. The only problem: well-meaning people keep putting non-recyclable paper, such as magazines and old phone books, in the hampers.

Remember: only bond paper, office stationery, copier paper, note paper, personal computer paper, and calculator tape can be recycled. Green-and-white-striped computer paper is handled separately.

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Opening Soon. *The new cogeneration plant in Bethpage will go on line shortly. It will supply cheaper electricity to the Bethpage complex.*

The Juice Will Be Flowing From Electric Plant Shortly

The cogeneration plant that will supply Grumman's Bethpage complex with less expensive electricity is about to go on line. One of the two, gas-fired, 20 megawatt turbines was ready to go two weeks ago. Start-up procedures on the other gas turbine and the 10 megawatt steam-driven turbine are nearly finished.

"The plant is about 95 percent complete," says Art Gibson, assistant to the vice president-Product Integrity and Environmental Protection. Ground was broken on March 31, 1988. The plant is being constructed by General Electric under contract to the owner: TBG Cogen Partners, a joint venture of General Electric's Turbine Business Operations, Brooklyn Union Gas Company and J. Makowski Associates, Inc., a venture management company.

"The major step is commercial operation," Gibson says. Commercial operation occurs when the plant produces 30 megawatts or more of power for eight consecutive hours. Once that happens, TBG Cogen must begin delivering at least 30 megawatts of power 24 hours a day to Grumman. "As anxious as they are to go commercial, they want to be sure they can provide the power on a reliable basis," Gibson said. Still, commercial operation could begin as early as the middle of this month. A ceremony celebrating the completion of the plant is planned for September.

Grumman wanted the plant built in order to have a reliable and less expensive source of electric power for the Bethpage complex. Long Island's electric rates are among the highest in the nation.

The company normally uses 30-35 megawatts of electricity in the Bethpage complex, though during peak periods Bethpage has needed as much as 42 megawatts. Grumman will get electricity from the cogeneration plant at a discount from the going Long Island Lighting Company rate. If the TBG Cogen plant isn't able to produce the electricity Grumman needs, it must reroute LILCO power through the plant and sell it to Grumman at the lower price.

TBG Cogen will also profit by selling to LILCO any residual power it produces over Grumman's requirements. It will also sell steam to Grumman.

Open Enrollment For Family Protection Plan

Grummanites on Long Island will have the opportunity to enroll in the Grumman Family Protection Plan during the week of August 21. Some off-site facilities will be visited the week of August 28.

This is a completely voluntary life insurance program for those who wish to supplement their Grumman-provided coverage. A non-smoker plan is available.

Details have been mailed to all eligible Grummanites. If you are interested, return the reply card as soon as possible, and you will be contacted for an interview with Employee Communication Systems, Inc. (ECS), the marketing representatives for the plan. If an interview is not possible, ECS will send you the necessary information. For more details, call (800) 729-5759.

Grumman Crew Rebuilds E-2 Wings Inside Out

BETHPAGE, L.I. — Crawling inside the wing of an E-2C Hawkeye makes for a tight fit. But for a crew in Building 2, this rather unorthodox maneuver is no sweat, even in the heat of summer.

These Grummanites work for the E-2C Wing Enhancement Program. They are repairing wings for E-2C Hawkeyes that have become corroded or cracked after many years in the fleet. Traditionally, such rework involves stripping the entire wing of its skins. Grumman's quality, manufacturing, and engineering departments came up with a way to safely, and effectively, redrill and re-rivet components from the inside of the wing — saving time and money.

Since February, Aircraft Systems' Bethpage Operations has delivered 14 of these reworked wings to the Navy. The wings get installed at the squadron level by both Navy crews and Grummanites from the Technical Services Division.

The Hidden Story. *Grumman has developed a way to redrill and re-rivet wing components from the inside, saving time and money. Russ Blair (above) rivets a support. At R, Russ Romano uses a meter to make a detailed inspection of a rivet hole.*

"To my knowledge, this is the first time repairs have been done in this manner," says Dick Gehrt, director of Advanced Assembly Concepts for Bethpage Operations. "When we were developing the job, we got together with the foremen. We practiced how we could accomplish the task, and measured the time it took to do each function on a set of scrap wings. After contract, we set up special training classes for the people who would be doing the work."

The wing enhancement being done in Bethpage is known as a "Step 2" enhancement, which is primarily reworking attachment holes and replacing fasteners. If the repair is more extensive, requiring the outer wing panel skins to be removed, the wing is sent to Grumman St. Augustine for what is known as a "Step 3" enhancement.

"We're hoping to refurbish approximately 60 wings in all," says Gehrt. "We've promised the customer four a month."

In reworking an E-2 wing in this manner, the mechanic must first remove a section of the fold rib of the wing. Once inside, support stiffeners and trusses are removed, one station at a time. The mechanic drills out existing fasteners on the lower skin joints, main beam, and lower cover.

Using special equipment, inspectors look for cracks and corrosion in the holes. All 1,000 holes that get inspected are "cold worked" — a special tool expands the hole under pressure, using no heat. Then, larger fasteners are installed.

"Cold working results in much greater fatigue life," explains Gehrt. "It's a fairly new technique that we use quite a bit on the current E-2C. It wasn't in use when these E-2 wings were built."

Usually, two people are assigned to a wing at once, and both day and night crews are working on the project. "We go about 10 feet into the wing, as far as the main bulkhead," says Bill Welsh, the day shift leadworker.

Special coveralls are worn by the wing enhancement team. Padding also is provided to protect both the structure and the people doing the work. "We soon realized that due to the summer heat, we'd have to get some cool air into the wing," says Gehrt. "We found out about 'cool guns' from the Grumman folks in Houston. The cool gun is a portable air blower that feeds cooled shop air to the person inside the structure."

"Believe it or not, with the cool gun, it's a lot more comfortable working inside the wing than out on the floor on a hot day," says Welsh.

Custom-built mobile workstations are right on the shop floor, containing all the tools, gauges, and other equipment needed to do the work. That eliminates trips to the stockroom.

Inspection accounts for 20-25 percent of the total job. That's because 1,000 holes on each wing must be inspected for cracks or corrosion. Furthermore, once the work is finished, the interior must be checked for foreign object debris.

"Rework is totally different from production work," says Frank Dajczak, a quality inspector. "We do three to four times as much inspection due to the critical nature of the rework."

Gehrt notes the actual cost of doing the work is below its target, the team is doing better than predicted schedule-wise, and paperwork has been minimized.

"Due to the dedication of this team, as well as effective planning, the project has gone very well," says Gehrt. "Initially, Bethpage was awarded a contract to repair 36 outer wing panels. Because of people's excellent performance, we have a good chance of winning additional work."

"It's a challenging job," says Welsh. "But we enjoy it. We're now looking for more of this type of work. We've shown it can be done."

Savvy Crew. *Leadworker Bill Welsh (R) explains some wing details to (L to R) Otto Bahr, Joe Zinzi, Bill Marquart, and Frank Dajczak. Grumman is repairing E-2C wings that have become cracked or corroded after many years in the fleet. Since February, Grumman has delivered 14 of these reworked wings to the Navy (Photos by Bob Settles).*

Smiling Faces. *Grummanites and their families had plenty of photo opportunities at the 1990 Grumman Family Picnic. (Photos by Gerry Costello and Bob Sagliocca)*

From LM To Tomcats, Picnic Is A Picture Perfect Day

"Dad, next time the Tomcat flies by, hold my ears so I can take a picture," shouted a young boy over the roar of an F-14 engine.

There were plenty of photo opportunities at the 1989 Grumman Family Picnic at Calverton (L.I.) on Saturday, July 22. People took turns posing in front of the Super Tomcat and an EA-6B Prowler that were on display. A scale model of the LM was nearby, while two large astronaut cardboard cutouts allowed young and old picnickers to pose for the family album in space garb.

It was a typical mid-July weekend — hazy, hot and humid. Before the summer sun burnt off the haze, five Tomcats flew over head. The haze accounted for a neat side effect — there were vapor streams coming off the tips of the Tomcats' swept wings.

About 4,500 Grummanites and their families attended the annual event. "The picnic is always a great opportunity for Grumman families to get together," said Chairman John O'Brien. "I've never seen so many young children at the picnic. It's a great family day."

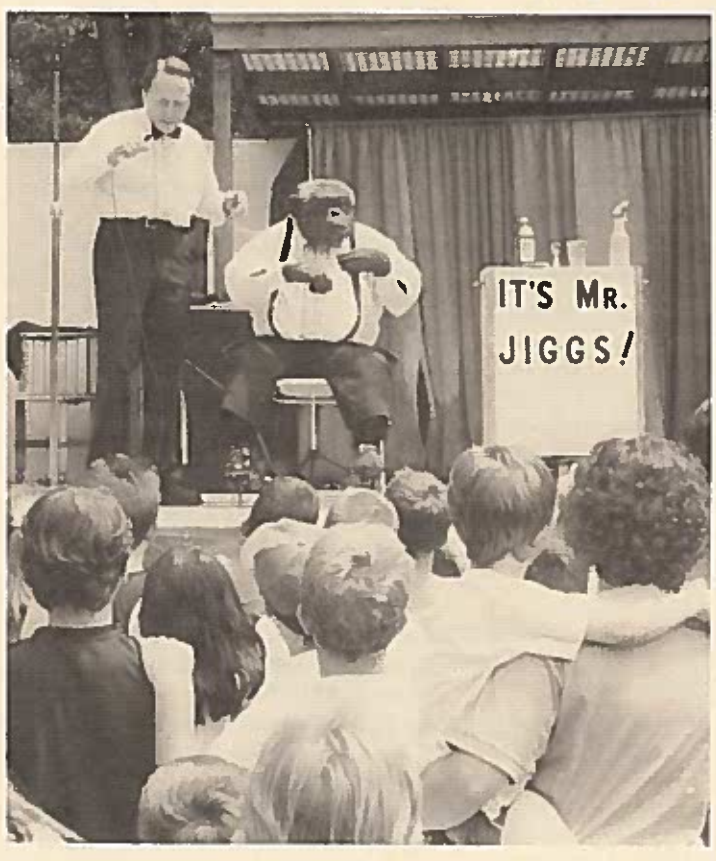
The light attendance meant that there were no lines for any of the rides or the food concession stands. There were plenty of good seats on the spacious lawn near the bandstand to see the magic act and Mr. Jiggs, the talented chimp.

However, a line formed early at the U.S. Postal Services' booth where a special commemorative $2.40 Priority Mail stamp, marking the 20th anniversary of the lunar landing, was on sale. The post office canceled over 2,700 stamps.

Harry Potkewicz, a member of the Grumman Stamp Club, brought from his private collection several moon landing stamps that were issued in 1969. He placed the 20-year-old stamp on the cachet envelope next to the 1989 version and had postal clerks apply the specially-designed Grumman pictorial cancellation. "I saved these original moon landing stamps for 20 years," he said, "and this is the perfect opportunity to use them." The pictorial cancellation will be available through August 31 in limited supply at the Bethpage and Calverton post officies on Long Island.

Several departments decided to make the 1989 picnic their annual outing. You couldn't miss the picnickers from Publications in Bethpage. To mark their picnic site, they hung a four-foot-long cutout of the Tomcat with fishing line from a big oak tree near the carousel.

"This is my first Grumman picnic in seven years," said Ellen Steimle, an illustrator in Publications. "Last year, one of the fellows in my department went to the picnic, and he said that the picnic had changed for the better. So a group of us decided to see for ourselves. He was right; it's great. We've got about 40 people here today. We'll be back next year."



Let Us Entertain You. *There was plenty to keep Grumman family members busy at the annual picnic on July 22. Mr. Jiggs the chimp drew a crowd and so did the two mini-railroad trains.*

U.S. Agents Get Trained Inside Grumman Gate

ST. AUGUSTINE, Florida — About once a month, the Grumman facility here becomes a training ground for U.S. Customs agents.

The training exercises are conducted by the Advanced Training Branch of Customs' Office of Enforcement, located in Brunswick, Georgia. Instructors and trainees from that school go to Grumman St. Augustine for a mock exercise in surveillance methods.

"The Grumman facility is used to set up a scenario that customs agents might actually encounter on the job," says Paul Heagy, director of Security at St. Augustine. "An instructor plays the role of a person attempting to buy aircraft spare parts."

Heagy points out that these visits do not interfere with normal operations at Grumman St. Augustine. The only people who have contact with the Customs instructor are the guard who admits him, the guard who escorts him, and the one Grummanite, in the salvage and spares department, with whom he meets.

"The students have to locate and track the instructor in Jacksonville," says Heagy. "Usually, the instructor takes them on a roundabout course through the streets of Jacksonville before heading south to St. Augustine."

At some point, he stops and makes a phone call to set up an appointment.

"The guy shows up at the gate and is badged like any other visitor," says Heagy. "He then meets with Ron Burford in our salvage area, who treats him like any other buyer of spare parts.

"The trainees aren't allowed on Grumman property. They have to monitor their instructor's movements from off-site, using audio, video and listening equipment, and then figure out what the instructor is doing.

"All the while, another team watches them to evaluate their abilities," he says. "The part of the exercise that's inside the Grumman gate takes less than 20 minutes."

Burford, Heagy, and Heagy's Security colleagues Bob Sauerhoff and Richard Schneckenburger recently received certificates of appreciation from the U.S. Customs Service for their cooperation in the training exercises. The Grummanites were presented with the awards on July 17.

Readership Survey

We don't want to do all the talking. We'd like to know what you think about the things you see in these pages. Your comments, suggestions and complaints are welcomed. Please take a few minutes and give us your opinions.

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Mail to: Grumman World, A22-GHQ
1111 Stewart Ave., Bethpage, N.Y. 11714

Obituaries

Huwelett B. Collins of Production Management, Bethpage, Aircraft Systems Division, died July 22 at the age of 51. He had been with the company since 1983 and resided at 2 Winter Way, Coram, N.Y.

James C. Cotton of Production Control/ Major Assemblies, Bethpage, Aircraft Systems Division, died July 14 at the age of 57. He had been with the company since 1955 and resided at 221-32 103 Ave., Queens Village, N.Y.

John T. Galante of A-6/EA-6B AFC Incorp-Da, Calverton, Aircraft Systems Division, died June 24 at the age of 52. He had been with the company since 1965 and resided at 25 Estate La., Shoreham, N.Y.

Hezekiah J. Green of General Cleaning, Corporate Services Division, died July 16 at the age of 64. He had been with Grumman since May 1989 and resided at 38 Sutton St., Hempstead, N.Y.

Simon Jaipaul of Mechanical Inspection, Bethpage, Aircraft Systems Division, died June 29 at the age of 53. He had been with the company since 1987 and resided at 10 Marshall St., Massapequa, N.Y.

Frederick L. Opfer Jr. of Operations Systems Services, Bethpage, Corporate Services Division, died June 21 at the age of 62. He had been with Grumman since 1951 and resided at 12 Bruce La., Farmingdale, N.Y.

Seymour Winkler of Integrated Logistics Support Concepts, Bethpage, Aircraft Systems Division, died July 4 at the age of 62. He had been with the company since 1968 and resided at 15 Mallard Drive, Huntington, N.Y.

Richard Ayres of Corporate Audit, Bethpage, Grumman Corporation, died July 16 at the age of 57. He had been with the company since 1965 and resided at 136 Lowell Rd., Sayville, N.Y.

John E. Condon of Engines, Calverton, Aircraft Systems Division, died July 29 at the age of 58. He had been with the company since 1955 and resided at 256 4th Ave., St. James, N.Y.

George E. Kaese of F-14 Nacelles, Bethpage, Aircraft Systems Division, died July 28 at the age of 56. He had been with the company since 1955 and resided at 20 Wall St., East Islip, N.Y.

Retiree Obituaries

Charles J. Bradley of 157 Gracie Drive, North Babylon, N.Y., died June 21, 1989. He retired in 1980.

Joseph Cirnigliaro of 50 Oakley Drive, Huntington Station, N.Y., died July 4, 1989. He retired in 1984.

Vincent J. Corrado of 40 35th St., Copiague, N.Y., died June 24, 1989. He retired in 1986.

Malcolm Dickerson of 24 Orchard Pl., Huntington, N.Y., died July 5, 1989. He retired in 1974.

Patrick M. Early of Box 2173, Aquebogue, N.Y., died June 24, 1989. He retired in 1967.

Eugene H. Garypie of Division St., Sag Harbor, N.Y., died July 21, 1989. He retired in 1983.

Bernard T. Harvey of 46 Altamont Ave., Sea Cliff, N.Y., died June 16, 1989. He retired in 1969.

Michael Keravich of 17 Locust Ave., Oakdale, N.Y., died July 5, 1989. He retired in 1984.

Alice G. Koester of 3852 Miller Place, Levittown, N.Y., died December 28, 1988. She retired in 1977.

Alphonse J. Kraujalis of 1150 Woodleaf Court, Palm Harbor, Florida, died July 3, 1989. He retired in 1977.

William N. Kutner at P. O. Box 223, Grangeville, Idaho, died July 22, 1989. He retired in 1977.

Dominick Logalbo of 528 Midway Drive, Lexington Park, Maryland, died July 8, 1989. He retired in 1975.

Raymond A. Lokkerberg of 9332 Fairview Place, Hanford, California, died June 21, 1989. He retired in 1986.

Holger Ludwigsen of 4121 Carl Boozer Road, Haines City, Florida, died May 8, 1989. He retired in 1970.

William A. Lycoff of 471 Southport St., Ronkonkoma, N.Y., died July 16, 1989. He retired in 1977.

Jasper Mauceri of 221 Forest Ave., Lynbrook, N.Y., died July 7, 1989. He retired in 1984.

John P. McCann of 6 Medical Plaza, Glen Cove, N.Y., died July 22, 1989. He retired in 1973.

Daniel Medeiros of 146-54 SW 38 Terrace Road, Ocala, Florida, died June 30, 1989. He retired in 1971.

Oscar A. Moore of 7 Lindsay Ave., Wyandanch, N.Y., died July 22, 1989. He retired in 1980.

George Rakovic of 9338 Citrus Springs Blvd., Citrus Springs, Florida, died June 25, 1989. He retired in 1976.

Stanley R. Rakowski of RD 2, Box 102, Taylor Hill Road, Granville, N.Y., died July 23, 1989. He retired in 1987.

Lawrence E. Ray of RD 1, Box 179, Scobie Road, Delancey, N.Y., died July 18, 1989. He retired in 1976.

Howard R. Richhold of 43 Quaker Path, Stony Brook, N.Y., died July 17, 1989. He retired in 1977.

James R. Shedden of 347 Buckingham Place, Palm Harbor, Florida, died July 22, 1989. He retired in 1984.

Charles A. Tangredi of 600 North Broadway, Amityville, N.Y., died July 10, 1989. He retired in 19833.

Robert L. Tobie of 2 Florida Way, Port St. Lucie, Florida, died July 7, 1989. He retired in 1984.

Willard E. Tuthill of 143 Ketcham Ave., Amityville, N.Y., died July 3, 1989. He retired in 1987.

Kurt F. Uhle of Houston Acres 201D, Millsboro, Delaware, died June 27, 1989. He retired in 1971.

John J. Waters of 66 Princeton St., Williston Park, N.Y., died July 19, 1989. He retired in 1986.

James W. Williams of 1857 Bergen St., Brooklyn, N.Y., died June 24, 1989. He retired in 1973.

Personals

Thanks to all our friends at Grumman for the beautiful thoughts and kind expressions of sympathy at the recent loss of Bill. **The Andrisani Family**

My family, my wife Helen, and I wish to extend our sincere appreciation and thanks to all my friends, co-workers and ESO for their visits, calls, cards of well wishes, fruit and flowers during my recent illness. **Edward Finnick**

My family and I want to thank all the wonderful people at Grumman for their kindness, love, sympathy and generosity during the recent loss of my wife Carmela. **Frank Raimondi**

I would like to thank all of my friends and co-workers for their sympathy, support, and prayers after the sudden loss of my fiance (and former Grumman employee) G. Robert Grover. **Anna M. Treiber**

We wish to extend our sincere thanks to all of my friends at Grumman for their sympathy, prayers and support during the recent loss of our father. **Margaret and Tony C. Vespa Jr.**

My family and I wish to convey to all my friends at Grumman our sincere appreciation for the support, prayers and sympathy extended to us during my father's recent death. **Dick Verderber**